

Applicant : Lee Mizzen et al.
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Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Cancelled)
2. (Previously Presented) An isolated nucleic acid molecule encoding a *Streptococcus pyogenes* Hsp60.
3. (Previously Presented) An isolated nucleic acid molecule selected from the group consisting of:
 - (a) an isolated nucleic acid molecule comprising the sequence of SEQ ID NO: 5 from nucleotides 15-1649;
 - (b) an isolated nucleic acid molecule comprising the sequence of SEQ ID NO: 7 from nucleotides 15-1652; and
 - (c) an isolated nucleic acid molecule comprising a sequence complementary to the sequence of SEQ ID NO:5 from nucleotides 15-1649 or complementary to the sequence of SEQ ID NO:7 from nucleotides 15-1652.
4. (Previously Presented) An isolated nucleic acid molecule comprising at least 24 nucleotides that hybridizes to SEQ ID NO: 5 from nucleotides 15-1649 or to a complement of SEQ ID NO: 5 from nucleotides 15-1649 when hybridization is carried out at 65°C in 6x SSC, 1x Denhardt's solution, and 0.1% SDS, and washing is carried out at 65°C in 0.2x SSC, 1x Denhardt's solution, and 0.1% SDS.

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5. (Previously Presented) An isolated nucleic acid molecule comprising a nucleotide sequence that is identical to a segment comprising at least 25% of contiguous nucleotide bases of SEQ ID NO: 5 from nucleotides 15-1649, SEQ ID NO: 7 from nucleotides 15-1652, a complement of SEQ ID NO: 5 from nucleotides 15-1649, or a complement of SEQ ID NO: 7 from nucleotides 15-1652.

6. (Previously Presented) An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes a polypeptide comprising a sequence that is at least 95% homologous to SEQ ID NO:6 or SEQ ID NO:8.

7. (Previously Presented) The isolated nucleic acid molecule of claim 3, encoding a polypeptide that is selectively bound by an antibody specific for a *Streptococcus pyogenes* Hsp60.

8. (Previously Presented) An isolated nucleic acid molecule comprising a nucleotide sequence encoding a polypeptide comprising a Streptococcal Hsp60 peptide consisting of at least 8 contiguous amino acids selected from amino acid residues 1-544 of SEQ ID NO: 6, wherein the Streptococcal Hsp60 peptide binds to a major histocompatibility complex molecule.

9-18. (Cancelled)

19. (Previously Presented) A vector comprising the isolated nucleic acid molecule of any one of claims 2-8.

20. (Previously Presented) The vector of claim 19, wherein the vector is an expression vector comprising a promoter operatively linked to the isolated nucleic acid molecule.

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21. (Previously Presented) The vector of claim 20, further comprising a selectable or identifiable marker.

22. (Previously Presented) The vector of claim 20, wherein the promoter is a constitutive or an inducible promoter.

23. (Previously Presented) A host cell containing the vector of claim 19.

24. (Previously Presented) The host cell of claim 23, wherein the host cell is selected from the group consisting of a bacterial cell, a mammalian cell, a yeast cell and an insect cell.

25-30. (Cancelled)

31. (Previously Presented) A composition comprising the isolated nucleic acid molecule of any one of claims 2-8 and a pharmaceutically acceptable carrier or diluent.

32. (Previously Presented) The nucleic acid molecule of claim 3, wherein the nucleic acid molecule comprises nucleotides 15-1649 of SEQ ID NO:5.

33. (Previously Presented) The nucleic acid molecule of claim 3, wherein the nucleic acid molecule comprises nucleotides 15-1652 of SEQ ID NO:7.

34. (Previously Presented) The nucleic acid molecule of claim 6, wherein the polypeptide comprises SEQ ID NO:6.

35. (Previously Presented) The nucleic acid molecule of claim 6, wherein the polypeptide comprises SEQ ID NO:8.

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36-37. (Cancelled)

38. (Previously Presented) The nucleic acid molecule of claim 6, wherein the polypeptide comprises an amino acid sequence that is at least 97% homologous to SEQ ID NO:6 or SEQ ID NO:8.

39. (Previously Presented) The nucleic acid molecule of claim 6, wherein the polypeptide comprises an amino acid sequence that is at least 98% homologous to SEQ ID NO:6 or SEQ ID NO:8.

40. (Previously Presented) The isolated nucleic acid molecule of claim 3, selected from the group consisting of:

(a) an isolated nucleic acid molecule consisting of the sequence of SEQ ID NO: 5 from nucleotides 15-1649;

(b) an isolated nucleic acid molecule consisting of the sequence of SEQ ID NO: 7 from nucleotides 15-1652; and

(c) an isolated nucleic acid molecule consisting of a sequence complementary to the sequence of SEQ ID NO:5 from nucleotides 15-1649 or complementary to the sequence of SEQ ID NO: 7 from nucleotides 15-1652.

41. (Previously Presented) An isolated nucleic acid molecule consisting of 12, 14-18, or 24 nucleotides that hybridizes to SEQ ID NO:7 from nucleotides 15-1652 or to a complement of SEQ ID NO:7 from nucleotides 15-1652 when hybridization is carried out at 65°C in 6x SSC, 1x Denhardt's solution, and 0.1% SDS, and washing is carried out at 65°C in 0.2x SSC, 1x Denhardt's solution, and 0.1% SDS.

42. (Previously Presented) A vector comprising the isolated nucleic acid molecule of claim 41.

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43. (Previously Presented) The vector of claim 42, wherein the vector is an expression vector comprising a promoter operatively linked to the isolated nucleic acid molecule.

44. (Previously Presented) A host cell comprising the vector of claim 43.

45. (Previously Presented) A composition comprising the isolated nucleic acid molecule of claim 41 and a pharmaceutically acceptable carrier or diluent.